

Vascular Complications Following Laparoscopy: Two Unusual Cases

Chau-Su Ou, MD

ABSTRACT

Background: Vascular complications following laparoscopic techniques may often be attributed to the incomplete control of bleeding sites at laparoscopy. When confronted with post-laparoscopy symptoms of hemodynamic insufficiency, the surgeon may infer the existence of hemorrhagic complications neglected at the laparoscopic session.

Methods: The author reviewed two otherwise normal cases of laparoscopic procedures that were complicated by bleeding disorders of unknown origin.

Results: Diagnosis and treatment of the hematologic complications revealed causes other than operator-inflicted injury.

Conclusions: While laparoscopists should remain vigilant concerning the very real threat of overlooked vascular injury following laparoscopy, some patients may exhibit hemorrhagic symptoms unrelated to the laparoscopic procedure.

Key Words: Laparoscopy, Hematoma, Hemorrhage.

INTRODUCTION

Reported complication rates of laparoscopy vary significantly.¹⁻⁴ Vascular injuries seem to be rare^{5,6} although blood loss following laparoscopic procedures may be indicative of serious complications which require immediate and continued follow-up. Potential causes of blood loss include injuries resulting from inaccurate trocar placement, Veress needle punctures, or vascular and/or visceral injury from dissection,⁷ but may also include bleeding disorders unrelated to the laparoscopy itself.

Presented here are two otherwise normal cases of laparoscopic procedures that were complicated by bleeding disorders of unknown origin. These case histories reinforce the notion that despite extremely careful investigation for bleeding sites following laparoscopic procedures, hematologic complications may occur that are not related to vascular injury at laparoscopy.

CASE I

Recounted here is the case of a 42-year-old female with a history of pelvic surgery admitted for laparoscopic removal of a pelvic mass. The patient's course was notable for a series of postoperative developments including pelvic hematoma, recurrent pelvic abscess, and spontaneous epigastric artery rupture one month following surgery. No evidence of hematologic abnormality was revealed by hematologic evaluation. The patient had, however, experienced severe hematoma formation following back and nose surgeries previously.

During the patient's initial admission in November 1993, a pelvic pseudocyst was removed laparoscopically. The procedure and stay were unremarkable, as was the office examination, including pelvic examination, at one week.

On the tenth postoperative day, the patient presented to the emergency department with a complaint of pelvic pain, noted to be sudden in onset. An ultrasound examination performed in the emergency department revealed a 6 cm mass, a suspected hematoma, in the cul-de-sac. The patient was sent home from the emergency department with antibiotics. She was admitted to the hospital on the 13th postoperative day following the development of fever and progressively worsening pelvic pain.

Northwest Hospital, Seattle, Washington

Assistant Professor of Gynecology, University of Washington School of Medicine

Address reprint request to: Chau-Su Ou, MD, Department of Research and Development, Northwest Hospital, 1550 N. 115th Street, Seattle, WA 98133, USA.
Telephone: (206) 368-2794, Fax: (206) 368-1949

Intravenous Premaxin was administered in an effort to control the patient's symptoms, which did not abate. As a result, the patient was brought to surgery. During the ensuing laparoscopy session a pelvic abscess was identified and drained. A JP drain was left in the pelvis to encourage further drainage, and a culture was performed on the exudate. The culture demonstrated the presence of *Staphylococcus aureus*. After five days the pelvic drainage had ceased, the patient's symptoms resolved, and the patient was discharged.

Seven days following discharge the patient returned to the office with a complaint of pelvic pain, sudden in onset; no febrile symptoms were noted. The patient was admitted. Ultrasound examination revealed a 4 to 5 cm pelvic mass. Following consultation with an infectious disease specialist, a course of intravenous vancomycin administration and a second laparoscopic drainage session was decided upon.

The abscess was again identified and drained laparoscopically, and a JP drain was inserted. There were no other abnormal findings. Microbiology reported that *Staphylococcus aureus* again was identified in the exudate.

Seven days postoperatively the patient's condition was improved. The JP drainage had dwindled to about 5 cc per day and discharge was planned. The patient reported severe abdominal pain of sudden onset midway through the seventh day. Ultrasound examination revealed a 9 cm hematoma extending superior-inferior present near the anterior rectus muscle. An incision was made and the hematoma was evacuated. The hematoma, which resulted in 700 cc blood loss and two units of transfusion, was found to be due to a ruptured epigastric artery within the rectus sheath. Given the location of the hematoma, 8 cm medial from the previous trocar incision and 8 cm inferior from the umbilicus, it was decided that the rupture was spontaneous and not resultant from the trocar wounds.

The patient recovered with no further problems and was discharged four days following the hematoma drainage, five weeks after her initial admit. Hematological work-up during the stay was unremarkable.

CASE II

In this case, a 46-year-old, gravida three, para three woman admitted for cholecystectomy exhibited an acute dramatic blood loss of unknown mechanism following her surgery. The patient's history was notable for severe postpartum hemorrhages following her three vaginal deliveries. In each case transfusion ranging from five to six units of blood was required. Hematologic studies in all cases were unre-

markable. Following her last delivery, hysterectomy was performed.

In this case, the patient presented with symptoms consistent with acute cholecystitis. She was admitted for day surgery after consenting to laparoscopic cholecystectomy. Pre-surgical hematological work-up revealed normal coagulation and prothrombin time, and hematocrit was measured at 41. No orthostatic tendency was noted.

The surgery itself was uneventful, with no evidence of intra-abdominal bleeding following a normal laparoscopic cholecystectomy. Blood loss during the 30-minute procedure was estimated at 30 cc. The patient was admitted for an overnight stay for observation.

On the first postoperative day, the patient began exhibiting symptoms of volume depletion. Hematological work-up revealed a hematocrit of 23. Ultrasound examination resulted in no suspicious findings and hematological consult was likely negative. A transfusion of three units of whole blood was ordered. Subsequently the patient's condition stabilized and the patient was discharged. A repeat hematology work-up on the third postoperative day demonstrated no abnormality. The patient has been followed for one year post-surgery and has displayed no further symptoms of this event.

DISCUSSION

These two patient histories are presented as examples of the unpredictable nature of some post-laparoscopy cases. While blood loss is a common and expected result of any surgical intervention, post-procedure blood loss of unknown origin results in a dilemma for the practitioner. Prophylaxis, as performed to prevent infection or thrombosis for example, is not possible in all cases, but awareness of late complications should keep all surgeons alert.

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